



Attorney's Docket No. 40989/237225(9280-12)

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: Stomp *et al.* Confirmation No.: 8799
Appl. No.: 09/915,873 Group Art Unit: 1638
Filed: July 26, 2001 Examiner: Georgia L. Helmer
For: EXPRESSION OF BIOLOGICALLY ACTIVE
POLYPEPTIDES IN DUCKWEED

MAIL STOP NON-FEE AMENDMENT

Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

**COMMUNICATION REGARDING REQUIREMENTS FOR PATENT APPLICATIONS
CONTAINING NUCLEOTIDE SEQUENCE AND/OR
AMINO ACID SEQUENCE DISCLOSURES**

Sir:

In response to the Office Action of January 29, 2003, please replace the sequence listing and the computer-readable form as originally filed in the present application with the attached sequence listing and the substitute computer-readable form submitted concurrently herewith.

The sequence listing and computer-readable form as originally filed have been amended to include the sequences described on pages 25 and 26 of the specification as requested by the Examiner. It is submitted that the amendments, made in accordance with 37 C.F.R. §1.825(a), included in the substitute sheets of the sequence listing do not include new matter.

I hereby state that the substitute copy of the computer-readable form, submitted in accordance with 37 C.F.R. §1.825(b), is the same as the amended sequence listing.

Respectfully submitted,

Kathryn L. Coulter

Kathryn L. Coulter
Agent for Applicant
Registration No. 45,889

Customer No. 00826 ALSTON & BIRD LLP Bank of America Plaza 101 South Tryon Street, Suite 4000 Charlotte, NC 28280-4000 Tel Raleigh Office (919) 862-2200 Fax Raleigh Office (919) 862-2260	CERTIFICATE OF MAILING I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: MAIL STOP NON-FEE AMENDMENT, Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450 on April 29, 2003. <i>Nora C. Martinez</i> Nora C. Martinez
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SEQUENCE LISTING

<110> Stomp, Anne-Marie
Dickey, Lynn
Gasdaska, John

<120> Expression of Biologically Active
Polypeptides in Duckweed

<130> 40989/237225

<140> 09/915,873

<141> 2001-07-26

<150> US 60/293,330

<151> 2001-05-23

<150> US 60/221,705

<151> 2000-07-31

<160> 12

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 554

<212> DNA

<213> Zea mays

<400> 1

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tgccgcagtg gcgctgatct tgtatgctat cctgcaatcg tggatgaact atgtctttta 180
tattccttcac taccatgaaa agactagtaa tctttctcga tgtaacatcg tccagcactg 240
ctattaccgt gtggtccatc cgacagtctg gctgaacaca tcatacgata ttgagcaaag 300
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tgcaacttgc aaggaggcgt ttctttcttt gaatttaact aactcgttga gtggccctgt 420
ttctcggacg taaggccttt gctgctccac acatgtccat tcgaatttta ccgtgttttag 480
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<210> 2

<211> 498

<212> DNA

<213> Artificial Sequence

<220>

<223> Duckweed codon optimized nucleotide sequence
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<221> CDS

<222> (1) ... (498)

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1 5 10 15	
ctg ctg gcg cag atg cgc cgc atc tcg ctc ttc agc tgc ctg aag gac	96
Leu Leu Ala Gln Met Arg Arg Ile Ser Leu Phe Ser Cys Leu Lys Asp	
20 25 30	
cgc cac gac ttc ggc ttc ccg cag gag gag ttc ggc aac cag ttc cag	144
Arg His Asp Phe Gly Phe Pro Gln Glu Glu Phe Gly Asn Gln Phe Gln	
35 40 45	
aag gcc gag acg atc ccc gtg ctc cac gag atg atc cag cag atc ttc	192
Lys Ala Glu Thr Ile Pro Val Leu His Glu Met Ile Gln Gln Ile Phe	
50 55 60	
aac ctg ttc agc acc aag gac agc tcg gcc gcc tgg gac gag acc ctg	240
Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu Thr Leu	
65 70 75 80	
ctc gac aag ttc tac acc gag ctg tac cag cag ctc aac gac ctg gag	288
Leu Asp Lys Phe Tyr Thr Glu Leu Tyr Gln Gln Leu Asn Asp Leu Glu	
85 90 95	
gcg tgc gtg atc cag ggg gtt ggg gtt acg gag acg ccg ctg atg aag	336
Ala Cys Val Ile Gln Gly Val Gly Val Thr Glu Thr Pro Leu Met Lys	
100 105 110	
gag gac agc atc ctc gcc gtg cgc aag tac ttc cag cgc atc acg ctc	384
Glu Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg Ile Thr Leu	
115 120 125	
tac ctc aag gag aag aag tac agc ccg tgc gcc tgg gag gtc gtt cgc	432
Tyr Leu Lys Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val Arg	
130 135 140	
gcc gag atc atg cgc tcc ttc agc ctg agc acc aac ctc cag gag agc	480
Ala Glu Ile Met Arg Ser Phe Ser Leu Ser Thr Asn Leu Gln Glu Ser	
145 150 155 160	
ctc cgc tcc aag gag taa	498
Leu Arg Ser Lys Glu *	
165	

<210> 3
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 <212> DNA
 <213> Oryza sativa

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 <211> 188

<212> PRT
 <213> Homo sapiens

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 20 25 30
 Gly Ser Arg Arg Thr Leu Met Leu Leu Ala Gln Met Arg Arg Ile Ser
 35 40 45
 Leu Phe Ser Cys Leu Lys Asp Arg His Asp Phe Gly Phe Pro Gln Glu
 50 55 60
 Glu Phe Gly Asn Gln Phe Gln Lys Ala Glu Thr Ile Pro Val Leu His
 65 70 75 80
 Glu Met Ile Gln Gln Ile Phe Asn Leu Phe Ser Thr Lys Asp Ser Ser
 85 90 95
 Ala Ala Trp Asp Glu Thr Leu Leu Asp Lys Phe Tyr Thr Glu Leu Tyr
 100 105 110
 Gln Gln Leu Asn Asp Leu Glu Ala Cys Val Ile Gln Gly Val Gly Val
 115 120 125
 Thr Glu Thr Pro Leu Met Lys Glu Asp Ser Ile Leu Ala Val Arg Lys
 130 135 140
 Tyr Phe Gln Arg Ile Thr Leu Tyr Leu Lys Glu Lys Lys Tyr Ser Pro
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 Cys Ala Trp Glu Val Arg Ala Glu Ile Met Arg Ser Phe Ser Leu
 165 170 175
 Ser Thr Asn Leu Gln Glu Ser Leu Arg Ser Lys Glu
 180 185

<210> 5
 <211> 165
 <212> PRT
 <213> Homo sapiens

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 35 40 45
 Lys Ala Glu Thr Ile Pro Val Leu His Glu Met Ile Gln Gln Ile Phe
 50 55 60
 Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu Thr Leu
 65 70 75 80
 Leu Asp Lys Phe Tyr Thr Glu Leu Tyr Gln Gln Leu Asn Asp Leu Glu
 85 90 95
 Ala Cys Val Ile Gln Gly Val Gly Val Thr Glu Thr Pro Leu Met Lys
 100 105 110
 Glu Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg Ile Thr Leu
 115 120 125
 Tyr Leu Lys Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val Arg
 130 135 140
 Ala Glu Ile Met Arg Ser Phe Ser Leu Ser Thr Asn Leu Gln Glu Ser
 145 150 155 160

Leu Arg Ser Lys Glu
165

<210> 6
<211> 31
<212> PRT
<213> Oryza sativa

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<210> 7
<211> 31
<212> PRT
<213> Artificial Sequence

<220>
<223> Modified rice alpha-amylase signal peptide

<400> 7
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<210> 8
<211> 21
<212> PRT
<213> Arabidopsis thaliana

<400> 8
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<210> 9
<211> 554
<212> DNA
<213> Zea mays

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tgccgcagtg gcgctgatct tgtatgctat cctgcaatcg tgggtgaactt atgtctttta 180
tatactttcac taccatgaaa agactagtaa tctttctcga tgtaacatcg tccagcactg 240
ctattaccgt gtggtccatc cgacagtctg gctgaacaca tcatacgata ttgagcaaag 300
atctatcttc cctgttcttt aatgaaagac gtcattttca tcagtatgat ctaagaatgt 360
tgcaacttgc aaggaggcgt ttctttcttt gaatttaact aactcgttga gtggccctgt 420

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ttctcggacg taaggccttt gctgctccac acatgtccat tcgaatttta cctgttttag 480
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<210> 10
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<212> DNA
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gaggagtttg gcaaccagtt ccaaaaggct gaaaccatcc ctgtcctcca tgagatgatc 180
cagcagatct tcaatctctt cagcacaaag gactcatctg ctgcttggga tgagaccctc 240
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cagggggtgg ggggtgacaga gactcccctg atgaaggagg actccattct ggctgtgagg 360
aaatacttcc aaagaatcac tctctatctg aaagagaaga aatacagccc ttgtgcctgg 420
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ttaagaagta aggaatga 498

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<210> 11
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<212> DNA
<213> Homo sapiens

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ctggcacaga tgaggagaat ctctcttttc tcctgcttga aggacagaca tgactttgga 180
tttccccagg aggagtttgg caaccagttc caaaaggctg aaaccatccc tgctcctccat 240
gagatgatcc agcagatctt caatctcttc agcacaaagg actcatctgc tgcttgggat 300
gagaccctcc tagacaaatt ctacactgaa ctctaccagc agctgaatga cctggaagcc 360
tgtgtgatac aggggggtgg ggtgacagag actcccctga tgaaggagga ctccattctg 420
gctgtgagga aatacttcca aagaatcact ctctatctga aagagaagaa atacagccct 480
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caagaaagtt taagaagtaa ggaatgaaa 569

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<210> 12
<211> 62
<212> DNA
<213> Arabidopsis thaliana

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